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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/659,890	09/11/2003	Ronnie J. Lindley	1017.P075US	8999

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Koestner Bertani LLP
P.O. Box 26780
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EXAMINER

NGUYEN, VINCENT Q

ART UNIT	PAPER NUMBER
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2858

DATE MAILED: 11/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/659,890

Applicant(s)

LINDLEY ET AL.

Examiner

Vincent Q Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the plurality of voltage conditioning circuits (e.g. claim 9), reduced voltage signal is provided to a display (e.g. claim 10) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Objection

2. Claim 9 recites "a plurality of voltage conditioning circuits is electrically coupled to a circuit under test". Examiner is unclear whether the circuits are simultaneously coupled to the circuit under test or is coupled one by one or simply the claim has typographical error.

An appropriate correction and/or explanation is required.

For the purpose of examination, examiner assumes that the claim was intended to recite the circuit is electrically coupled to a circuit under test.

Claim 10 recites a display, as discussed in the objection to the drawing above, for the purpose of examination, the examiner assumes that the display is any device that display data or information of the circuit including the graph.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1-3, 7, 9, 10, 12-16, are rejected under 35 U.S.C. 102(b) as being anticipated by Casper (5,644,215).

Regarding claims 1, 12-16, Casper discloses a device comprising an input port (Vcc) to receive the electrical signal from an external sampling point; conditioning circuit, wherein the conditioning circuit comprises (Figure 2) a voltage reducing circuit

having output terminals (38) to output a reduced voltage; and a voltage limiting circuit (22) in parallel with the output terminals (38) to limit a voltage across the output terminals when a circuit element within the voltage reducing circuit fails; and a first electrical pathway (through element 22) to electrically couple the received electrical signal to the conditioning circuit.

Regarding claim 2, Casper discloses a first resistance; and a second resistance (Resistance after 28_2) in series with the first resistance, wherein output terminals (38, 30_{n-1}) are across the second resistance.

Regarding claim 3, Casper discloses the voltage limiting circuit (22) comprises transorb.

Regarding claim 7, Casper discloses the reduced voltage signal is provided to a data acquisition system (26).

Regarding claim 9, Casper discloses plurality voltage conditioning circuit is coupled to a circuit under test (18).

Regarding claim 10, Casper discloses the graph (Figure 5-6) displaying the reduced voltage.

2. Claims 1-3, 12-16, are rejected under 35 U.S.C. 102(b) as being anticipated by Konrad (4,835,462).

Regarding claims 1, 12-16, Konrad discloses a device comprising an input port (16a) to receive the electrical signal from an external sampling point; conditioning circuit (22), wherein the conditioning circuit comprises a voltage reducing circuit (24, 26)

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having output terminals (Between 24 and 26 and ground) to output a reduced voltage; and a voltage limiting circuit (28) in parallel with the output terminals to limit a voltage across the output terminals when a circuit element within the voltage reducing circuit fails; and a first electrical pathway (through element 28) to electrically couple the received electrical signal to the conditioning circuit.

Regarding claim 2, Konrad discloses a first resistance (24); and a second resistance (26) in series with the first resistance (24), wherein output terminals are across the second resistance (26).

Regarding claim 3, Konrad discloses the voltage limiting circuit (28) comprises a transistor.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Casper (5,644,215) in view of Rodgers et al. (4,698,740).

Regarding claim 4, Casper does not disclose diodes connected in parallel with polarity reversed.

Rodgers et al. discloses a regulated voltage supply and further discloses (figure 7) a first diode (826) aligned such that if a voltage across terminals (across 825)

exceeds a breakdown voltage, the output terminals are shunted reference point (816); a second diode in parallel to the first diode but aligned such that forward current flow in the second diode is opposite that of diode (See element 826) for the purpose of shunting the converter (Column 2, lines 50-56).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the diodes configured in parallel as taught by Rodgers et al. into the system of Casper because using diodes connected in parallel with polarity reversed is routine for the purpose of shunting.

5. Claims 5, 6, 11, are rejected under 35 U.S.C. 103(a) as being unpatentable over Casper (5,644,215).

Regarding claims 5, 6, Casper does not disclose the ratio of the second resistance to the sum of first resistance is about 1/101.01.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the ratio of the second resistance to the sum of first resistance is about 1/101.01 and the reduced voltage does not exceed 40 voltages into the system of Casper, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Regarding claim 11, Casper does not disclose a first failure in either first or second resistance does not result in a reduced voltage exceeding a predetermined safe voltage.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the resistance values in a series configuration and shunting diodes so that a failure in either first or second resistance does not result in a reduced voltage exceeding a predetermined safe voltage because selecting the values for the resistance R_2 in the voltage divider $R_2/(R_1+R_2)$ is principle of Ohm law.

6. Claims 8, 17, 18, are rejected under 35 U.S.C. 103(a) as being unpatentable over Casper (5,644,215) in view of Weberg (4,099,216).

Regarding claims 8, 17, Pertinence to the discussion of claim 1 above, Casper does not disclose an epoxy package encapsulates the conditioning circuit.

Weberg discloses a fuseless intrinsic safety barrier and further discloses an epoxy package (figure 1) encapsulates the conditioning circuit (10) for the purpose of enhancing the safety (Column 2, lines 44-46).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the epoxy package encapsulates the conditioning circuit as taught by Weberg into the system of Casper because insulating the circuit would have been desirable for the safety.

Regarding claim 18, Casper discloses the voltage limiting circuit comprises a transorb (22).

7. Claims 19-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Casper (5,644,215) in view of Weberg (4,099,216), as applied to claim 17 above, and further in view of in view of Rodgers et al. (4,698,740).

Regarding claim 19, Casper and Weberg do not disclose diodes connected in parallel with polarity are reversed.

Rodgers et al. discloses a regulated voltage supply and further discloses (figure 7) a first diode (826) aligned such that if a voltage across terminals (across 825) exceeds a breakdown voltage, the output terminals are shunted reference point (816); a second diode in parallel to the first diode but aligned such that forward current flow in the second diode is opposite that of diode (See element 826) for the purpose of shunting the converter (Column 2, lines 50-56).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the diodes configured in parallel as taught by Rodgers et al. into the system of Casper because using diodes connected in parallel with polarity reversed is routine for the purpose of shunting.

Regarding claims 20, 21, Casper does not disclose the ratio of the second resistance to the sum of first resistance is about $1/101.01$.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the ratio of the second resistance to the sum of first resistance is about $1/101.01$ and the reduced voltage does not exceed 40 voltages into the system of Casper, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Regarding claim 22, Casper discloses the reduced voltage signal is provided to a data acquisition system (26).

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Regarding claim 23, Casper discloses the graph (Figure 5-6) displaying the reduced voltage.

Regarding claim 24, Casper does not disclose a first failure in either first or second resistance does not result in a reduced voltage exceeding a predetermined safe voltage.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the resistance values in a series configuration and shunting diodes so that a failure in either first or second resistance does not result in a reduced voltage exceeding a predetermined safe voltage because selecting the values for the resistance R_2 in the voltage divider $R_2/(R_1+R_2)$ is principle of Ohm law.

Contact Information

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vincent Q Nguyen whose telephone number is (571) 272-2234. The examiner can normally be reached on 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, N. Le can be reached on (571) 272-2233. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



November 20, 2004

Vincent Q Nguyen
Patent Examiner
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